Step 11. Enter to the Thermocouple Type Input Submenu
Press ⟳ to display flashing, previously selected Thermocouple type.

Step 12. Scroll through available selection of TC types
Press ▲ to sequence thru flashing Thermocouple types, (select k -for type "K" CHROMEGA®/ALOMEGA®)
J K T E N   DIN J   R S B C - TC types
J k t E N   dNJ   R S b C - Display

Step 13. Store TC type
After you have selected the Thermocouple type press ↵ to store your selection, the instrument automatically advances to the next menu item.

Step 14. Enter to Reading Configuration Menu
The display shows **Rdg** Reading Configuration, which is the top menu for 4 submenus: Decimal Point, Degree Units, Filter Constant and Input/Reading Submenus.

Step 15. Enter to Decimal Point Submenu
Press ↵ to show **dEC** Decimal Point.

Step 16. Display the Decimal Point position
Press ↵ again to display the flashing Decimal Point position.

Step 17. Select the Decimal Point position
Press ▲ to select **FFF.F** Decimal Point position.

Step 18. Store selected Decimal Point position
By pressing ↵ momentarily the Decimal Point position will be stored and the instrument will go to the next menu item.

Step 19. Enter to Temperature Unit Submenu
Display shows **tEMP** Temperature Unit.

Step 20. Display available Temperature Units
Press ↵ to display the flashing Degree **F** or **C**.

Step 21. Scroll through Temperature Units selection
Press ▲ to select **F** Degree.

Step 22. Store the Temperature Unit
Press ↵ to display momentarily that the Degree Unit has been stored and the instrument will go automatically to the next menu item.

Step 23. Enter the Filter Constant Submenu
Display shows **FLtR** Filter Constant Submenu.

Step 24. Display the Filter Constant Value Submenu
Press ↵ to display the flashing, previously selected Filter Constant.

Step 25. Scroll through available Filter Constants
Press ▲ to sequence thru Filter Constants **0001**, **0002**, **0004**, **0008**, **0016**, **0032**, **0064** and **0128**.

Step 26. Store the Filter Constant
Press ↵ momentarily to store **0004** Filter Constant and the instrument will automatically go to the next menu item.

Step 27. Enter Alarm 1 Menu
The display will show **ALR1** the top menu for Alarm 1. In the following steps we are going to enable Alarm 1, Deviation, Unlatch, Normally Open, Active Above, Enable at power on and +2°F High Alarm i.e. Process Value > Setpoint 1 Value +2°F will activate Alarm 1.

Step 28. Enter Alarm 1 Enable/Disable Submenu
Press ↵ to display flashing **dSbL / ENbL**.

Step 29. Enable Alarm 1 Submenu
If flashing **ENbL** is displayed, press ↵, if **dSbL** is displayed, press ▲ until **ENbL** is displayed, then press ↵ to store and go to the next menu item.

Step 30. Select the Deviation Control Type Submenu
Press ↵. If flashing **_dEV** Deviation is displayed press ↵, otherwise press ▲ until flashing **_dEV** is shown. Now press ↵ to store and go to next menu item.

Step 31. Select the Latched Type Submenu
Press ↵. If flashing **UNLt** Unlatched is displayed press ↵, otherwise press ▲ until **UNLt** is displayed. Press ↵ to store and advance to next menu item.

Step 32. Select the Normally Open Type of Contact Closure Submenu
Press ↵. If flashing **N.o.** Normally Open is displayed, press ↵, otherwise press ▲ until **N.o.** is displayed. Press ↵ to store and advance to next menu item.

Step 33. Select the Above Type of Active Submenu
Press ↵. If flashing **Abov** Above is displayed, press ↵, otherwise press ▲ until **Abov** is displayed. Press ↵ to store and advance to next menu item.

Step 34. Enable Alarm 1 at Power On (**A.P.oN**)
Press ↵. If flashing **ENbL** is displayed, press ↵, otherwise press ▲ until **ENbL** is displayed. Press ↵ to store and advance to next menu item.

Step 35. Enter Alarm 1 High Submenu
Press ↵ twice to skip **ALR.L** Alarm 1 Low value. **ALR.L** is for below & **ALR.H** for above.

Step 36. Set the Alarm 1 High value (**ALR.H**)
Press ↵. Press ▲ or ▼ until value to set the display to **002.0**. Press ↵ to save.

Step 37. Enter the Alarm 2 Menu
The display will show **ALR2** the top menu for Alarm 2. Repeat steps from 28 to 36 to set for Alarm 2 the same conditions as for Alarm 1.

Step 38. Skip the Loop Break Time Menu (**LOOP**)
Press ▲ to go to the **Out1** Output 1 Menu item.

Step 39. Configuration the Output 1 Menu

Configure Out 1 as **CtRL** / **PId** / **ACtN** / **PwRS** / **AutO** / **dSbL** / **ANtL** / **ENbL** / **PRoP** / **005.0** / **RESt** / **0180** / **RAtE** / **018.0** / **CYCL** / **0010** and **dPNG** / **0003**. Please refer to the operator's manual if needed. Press ↵ to save and go to the next menu item.

Step 40. Configuration of Display Color Selection
Press ▲ until the **COLR** Display Color Selection Menu appears on the Display. Configure **COLR** as **W.CLR** / **GRN** (green), **1.CLR** / **REd** (red), **2.CLR** / **AMbR** (amber). Please refer to the operator's manual if needed.

Step 41. Run a Test
Press ▲ until reset the controller and return to **RUN** Mode to display **075.0** (Ambient Temperature). Now you are ready to observe temperature as it rises 10°F higher than displayed. Touch the tip of the Thermocouple to raise the temperature above the Alarm 2 High value **082.0**, and AL2 will turn on, and Display Color will change from Green to Amber. Continue touching the tip to raise the temperature above the Alarm 1 High value **087.0** and Display Color will change from Amber to Red. Annunciator "1" is turning on and off displaying output 1.

SPECIFICATION
Accuracy:
±0.5°C temp;
0.03% rdg. process typical
Resolution:
1°/0.1°; 10 µV process
Temperature Stability:
0.04°C/°C RTD;
0.05°C/°C TC @ 25°C (77°F);
50 ppm/°C process
iDRP Remote Programmer/Display Option:
4-digit, 9-segment LED 21 mm (0.83"), 48H x 96W x 39D (1.89 x 3.78 x 1.55"), 159g (0.35lbs). Red, green, and amber programmable colors for process variable, setpoint and temperature units
Input Types:
Thermocouple, RTD, Analog Voltage and Current
TC: (ITS 90)
J, K, T, E, R, S, B, C, N, L
RTD: (ITS 68)
100/500/1000 ohm Pt sensor 2-, 3-, or 4-wire; 0.00385 or 0.00392 curve
Voltage:
0 to 100 mV, 0 to 1 V, 0 to 10 Vdc
Current:
0 to 20 mA (4 to 20 mA)

Output 1:
Relay 250 Vac @ 3 A Resistive Load, SSR, Pulse, Analog Voltage and Current
Output 2:
Relay 250 Vac @ 3 A Resistive Load, SSR, Pulse
Options: Communication
RS-232 / RS-485 *or* 10BaseT *or* Excitation: 24 Vdc @ 25 mA
EXC. not available for Low Power Option
Line Voltage/Power:
90 - 240 Vac ±10%, 50 - 400 Hz*, *or* 110 - 375Vdc, **4W**
* *No CE compliance above 60 Hz*
Low Voltage Power Option:
12-36 Vdc, **3 W****
** *Units can be powered safely with 24 Vac but No Certification for CE/UL are claimed.*
Dimensions:
Standard Unit iDR:
92.5H x 125.2D x 24.9mm W (3.64 x 4.93 x 0.98"); 181 g (0.4 lb)
Ethernet Unit iDR-EI/C4EI:
92.5H x 125.2D x 39.8mm W (3.64 x 4.93 x 1.55"); 204 g (0.45 lb)
Approvals:
UL, C-UL, CE per EN 61010-1:2001

WARNING: These products are not designed for use in, and should not be used for, patient-connected applications.

⚠ This device is marked with the international caution symbol. It is important to read the Setup Guide before installing or commissioning this device, as the guide contains important information relating to safety and EMC.

It is the policy of OMEGA to comply with all worldwide safety and EMC/EMI regulations that apply. OEMGA is constantly pursuing certification of its products to the European New Approach Directives. OMEGA will add the CE mark to every appropriate device upon certification.

The information contained in this document is believed to be correct, but OMEGA Engineering, Inc. accepts no liability for any errors it contains, and reserves the right to alter specifications without notice.

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MQS3849/0206

QUICK START →

CE

MADE IN USA

i.Series

**iDR Controller
DIN Rail Temperature & Process**

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USA:
ISO 9001 Certified
One Omega Drive, P.O. Box 4047
Stamford CT 06907-0047
TEL: (203) 359-1660   FAX: (203) 359-7700
e-mail: info@omega.com

Canada:
976 Bergar
Laval (Quebec) H7L 5A1
TEL: (514) 856-6928   FAX: (514) 856-6886
e-mail: info@omega.ca

For immediate technical or application assistance:

USA and Canada: Sales Service: 1-800-826-6342 / 1-800-TC-OMEGA®
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Engineering Service: 1-800-872-9436 / 1-800-USA-WHEN®

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En Español: (001) 203-359-7803
e-mail: espanol@omega.com

Servicing Europe:

Czech Republic:
Frystatska 184, 733 01 Karviná
TEL: +420 59 6311899   FAX: +420 59 6311114
e-mail: info@omegashop.cz

Germany/Austria:
Daimlerstrasse 26, D-75392 Deckenpfronn, Germany
TEL: +49 7056 9398-0   FAX: +49 7056 9398-29
Toll Free in Germany: 0800 639 7678
e-mail: info@omega.de

United Kingdom:
ISO 9002 Certified
One Omega Drive
River Bend Technology Centre
Northbank, Irlam Manchester M44 5BD United Kingdom
TEL: +44 161 777 6611 FAX: +44 161 777 6622
Toll Free in England: 0800 488 488
e-mail: sales@omega.co.uk

START HERE

This Quick Start Reference provides information on setting up your instrument for basic operation. The latest complete Communication and Operational Manual as well as free Software are available at *www.omega.com/specs/iseries* or on the **CD-ROM enclosed with your shipment**.

SAFETY CONSIDERATION

⚠ **This device is marked with the international Caution symbol.**

The instrument is protected in accordance with EN 61010-1:2001, electrical safety requirements for electrical equipment for measurement, control and laboratory. Remember that the unit has no power-on switch. Building installation should include a switch or circuit-breaker that must be compliant to IEC 947-1 and 947-3.

SAFETY:
- Do not exceed voltage rating on the label located on the side of the instrument housing.
- Always disconnect power before changing signal and power connections.
- Do not use this instrument on a work bench without its case for safety reasons.
- Do not operate this instrument in flammable or explosive atmospheres.
- Do not expose this instrument to rain or moisture.

EMC:
- Whenever EMC is an issue, always use shielded cables.
- Never run signal and power wires in the same conduit.
- Use signal wire connections with twisted-pair cables.
- Install Ferrite Bead(s) on signal wire close to the instrument if EMC problems persist.
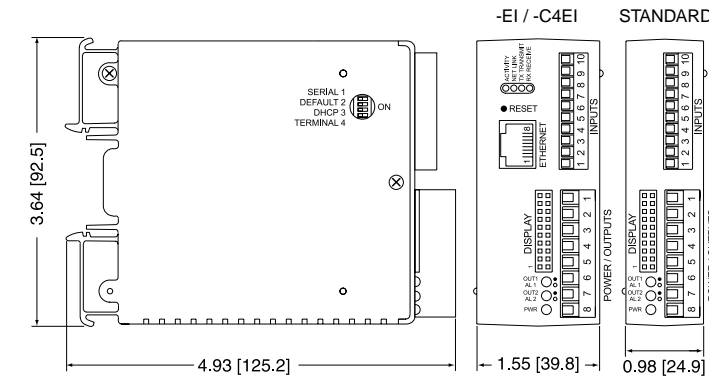
MOUNTING
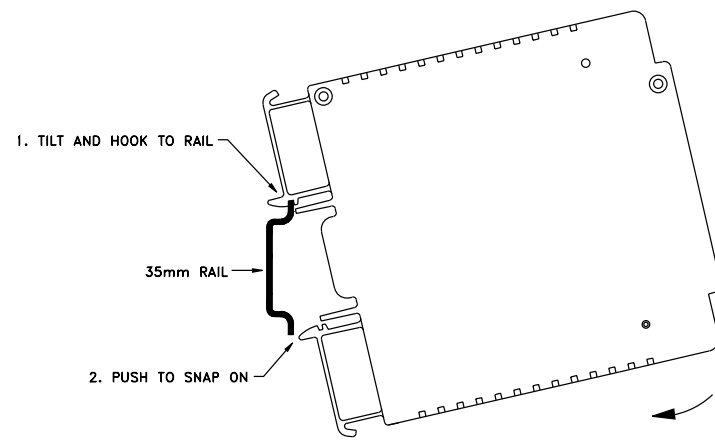
To install unit onto DIN Rail:
1) Tilt unit, position mounting slot onto DIN Rail, as shown.
2) Push unit towards DIN Rail and it will snap into place.
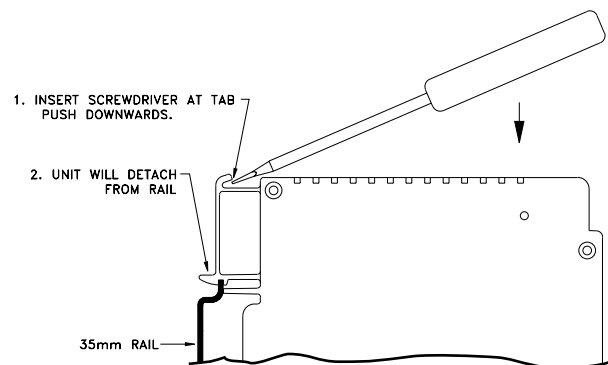
To remove unit from DIN Rail:
1) Insert flat screw-driver into tab and push downwards.
2) Unit will detach from DIN Rail.

DIMENSIONS

3.64 [92.5]
4.93 [125.2]
1.55 [39.8]
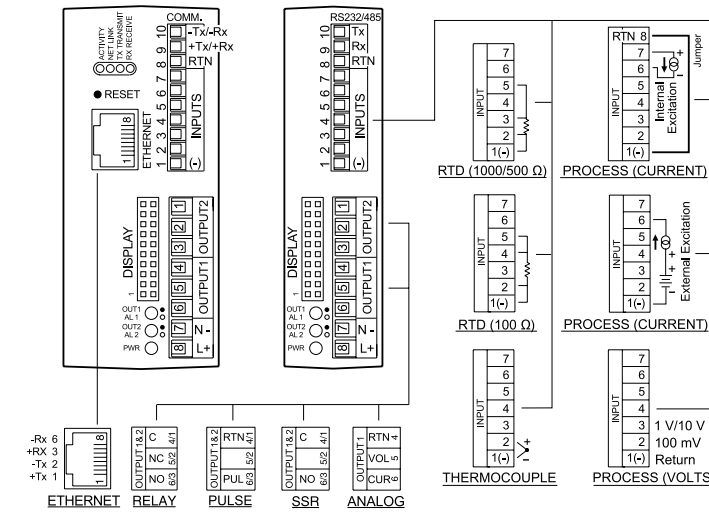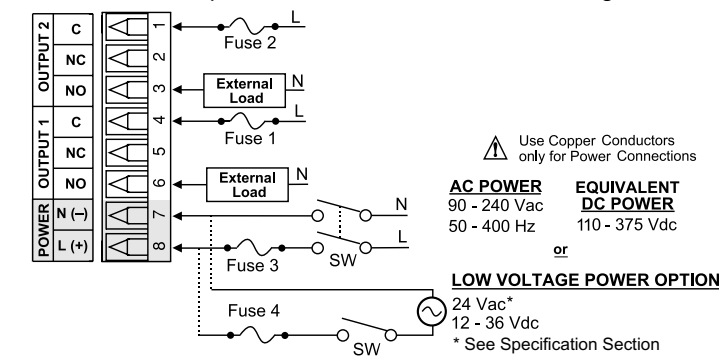0.98 [24.9]
-EI / -C4EI   STANDARD

WIRING

Wire the instrument according to the figure shown below.

⚠ **Warning: Do not connect ac power to your device until you have completed all input and output connections. This device must only be installed by a specially trained electrician with corresponding qualifications. Failure to follow all instructions and warnings may result in injury!**

Connect the main power connections as shown in the figure below.

Use Copper Conductors only for Power Connections

AC POWER
90 - 240 Vac
50 - 400 Hz

EQUIVALENT DC POWER
110 - 375 Vdc

or

LOW VOLTAGE POWER OPTION
24 Vac*
12 - 36 Vdc
* See Specification Section

FUSE	Connector	Output Type	For 115Vac	For 230Vac	DC
FUSE 1	Output 1	Relay	3 A(T)	3 A(T)	-
FUSE 2	Output 2	Relay	3 A(T)	3 A(T)	-
FUSE 3	Power	N/A	100 mA(T)	100 mA(T)	100 mA(T)
FUSE 4	Power	N/A	N/A	N/A	400 mA(T)

CONFIGURATION

Note: The following steps for configuring your device are explained by using the optional Remote Programmer Display (**iDRP**), you may also configure your device through the Networking or Communication option (**-C24**, **-C4EI** or **-EI**).

MENU Mode:
Flashing display in MENU Mode means you can make your selection by pressing ⊙ button. If the flashing display is not a four digit value, pressing ⊙ button will always direct the instrument one step backward of the top menu item. The second push on the ⊙ button will reset the instrument except after the setpoint and the alarms, that will go to the RUN Mode without resetting the instrument. The ⊙ button will always sequence the instrument thru the menu items.

**The ⊙ button has two functions:**
1. To save a selected flashing display
2. To direct the instrument to the next submenu level

RUN Mode:
- ⊙ causes the display to flash the PEAK with the corresponding value. Press again to go back to RUN Mode.
- ⊙ causes the display to flash VALLEY with the corresponding value. Press again to go back to RUN Mode.
- ⊙ causes flashing PEAK or VALLEY to reset corresponding values. Pressing ⊙ twice will cause the display to flash *Stby* and put the instrument into standby, which disables all outputs and alarms. Press ⊙ one more time to go back to RUN Mode.

FLOW CHART
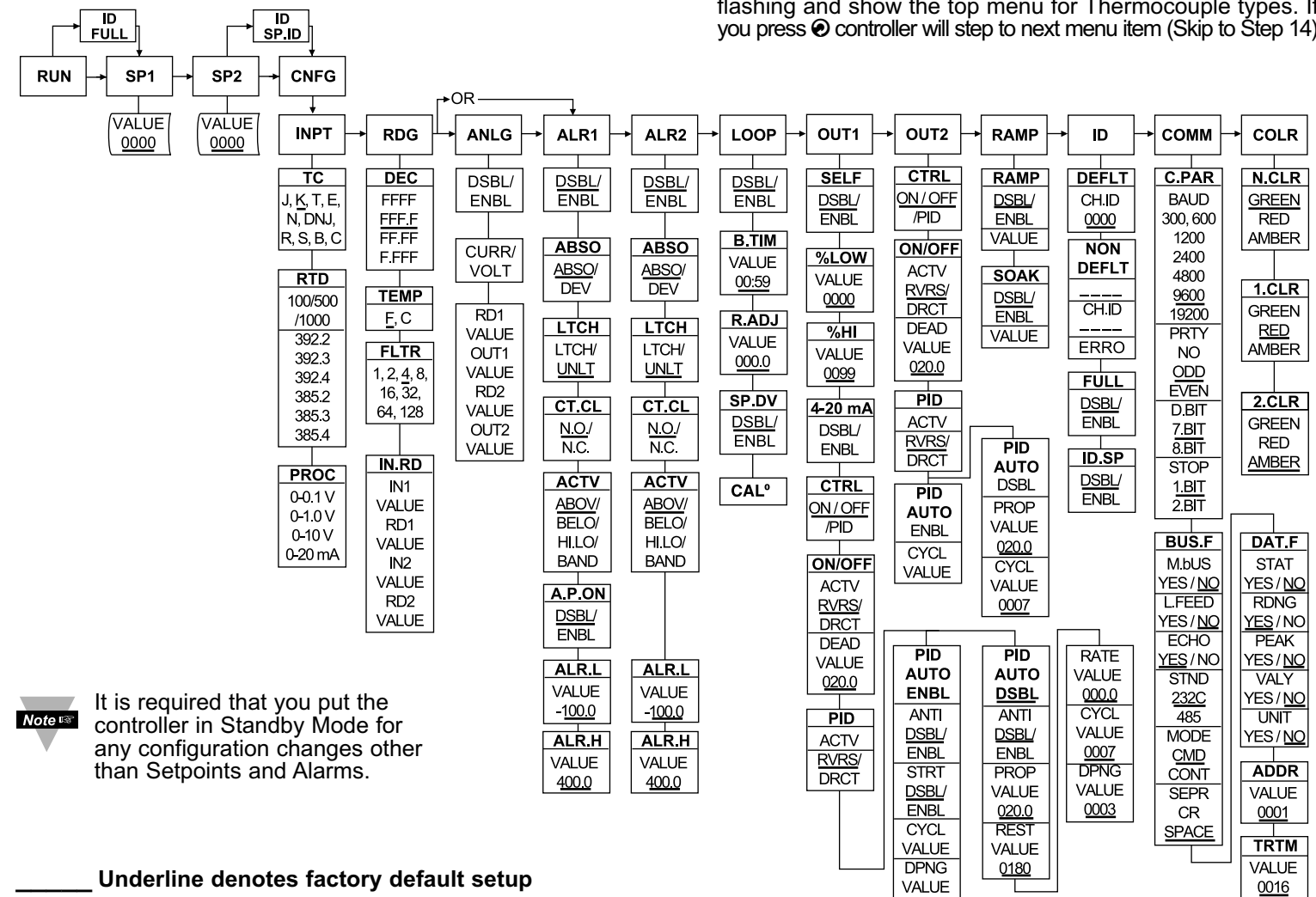
Note: It is required that you put the controller in Standby Mode for any configuration changes other than Setpoints and Alarms.

OPERATION - (For Thermocouple Input)

Step 1. Apply Power to the Instrument
When your device is first powered up it will display the ambient temperature (assume 75°F).

Step 2. Enter Setpoint 1 Menu
Press ⊙ one time from run mode to get to *SP1* Setpoint 1.

Step 3. Enter the Setpoint 1 Value Submenu
Press ⊙. Display shows the previous selection of Setpoint 1.

Step 4. Change the Setpoint 1 Value
Press ⊙ or ⊙ until desired value is displayed.

Step 5. Store the Setpoint 1 Value
Set the Setpoint 1 to 10 degree higher than Process value (SP1 = 85) and press ⊙ to store, display flashes *StRd* message and advances to *SP2* Setpoint 2 Menu.

Step 6. Store the Setpoint 2 Value
Repeat steps 3 and 4. Set the Setpoint 2 to 5 degree higher than Process value (SP2 = 80) and press ⊙ to store, display flashes *StRd* message and advances to *CNFG* Configuration Menu.

Step 7. Enter the Input Type Menu
Press ⊙ to enter *INPt* Input Type Menu.

Step 8. Enter to the submenu items of Input Menu
Press ⊙ to display Input: Process, RTD or Thermocouple. If flashing *t.C* is displayed press ⊙ and proceed to Step 11.

Step 9. Scroll through available selection of Input Menu
Press ⊙ until a flashing *t.C* for Thermocouple is displayed.

Step 10. Enter to the Thermocouple Input Submenu
Press ⊙ to store Thermocouple Input. The display will stop flashing and show the top menu for Thermocouple types. If you press ⊙ controller will step to next menu item (Skip to Step 14).

_____ Underline denotes factory default setup